CLAIMS

1.   A method of HARQ process configuration involving packet combining in a mobile communication system, wherein a plurality of HARQ processes are established in a transmitter and a receiver comprising the steps of:

        configuring a plurality of HARQ processes of unrestricted use for data flows having different QoS requirements and

        pre-configuring at least one reserved HARQ process for data flows of specific QoS requirements.

2.   A method of HARQ process configuration in a mobile communication system, wherein a plurality of HARQ processes are established in a transmitter and a receiver comprising the steps of:

        configuring a minimum number of HARQ processes according to a system parameter and

        pre-configuring at least one additional HARQ process for specific data flows of high priority.

3.   The method according to claim 1 or 2 comprising the additional steps of:

        scheduling a plurality of data flows from at least one priority queue and emptying the priority queue to one or a plurality of configured HARQ processes for transmission,

4.   The method according to one of claims 1-3, wherein the reserved and/or additional HARQ process has a limited functionality compared with a plurality of HARQ processes.

5.   The method according to one of claims 1-4, wherein the reserved and/or additional HARQ process supports a maximum possible/lower modulation coding scheme (MCS) level compared with the plurality of HARQ processes.

6.   The method according to one of claims 1-5, wherein the reserved and/or additional HARQ process supports a maximum possible/lower transport format resource combination (TFRC) compared with the plurality of HARQ processes.

7.   The method according to one of claims 1-6, wherein the reserved and/or additional HARQ process supports Chase Combining or Incremental Redundancy according to available memory in the soft buffer.

8.   The method according to one of claims 1-7, wherein for the reserved and/or additional HARQ process, a smaller soft buffer size is reserved at the receiver compared with that reserved for one of a plurality of HARQ processes.

9.   The method according to one of claims 1-8, wherein the transmitter signals to the receiver to use a separate re-ordering buffer for the reserved and/or additional HARQ process.

10.   The method according to one of claims 1-9, wherein an HARQ process identification is signalled to the receiver.

11.   The method according to one of claims 1-10, wherein the number of HARQ processes and/or functionality of additional processes are matched to the round trip delay (RTD) caused by transmission time and processing time at the receiver and the transmitter.

12.   The method according to claim 1, wherein the number of configured HARQ processes varies dynamically in accordance with a system parameter.

13.   The method according to claim 2 or 12, wherein the system parameter is one of round trip time, processing time, traffic burstiness, quality of service,

modulation coding scheme, timing of shared channels and minimum transmission time interval.

14.   The method according to one of claims 1-13, wherein an HARQ process configuration is signalled from the transmitter to the receiver by HARQ protocol control packet.

15.   The method according to claim 14, wherein an HARQ protocol control packet is identified by inband signalling.

16.   The method according to one of claims 14 or 15, wherein control information may be signalled explicitly or implicitly.